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Fig. 5.

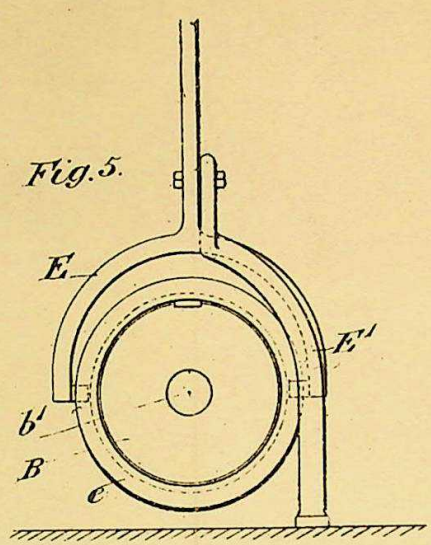

Fig. 1.

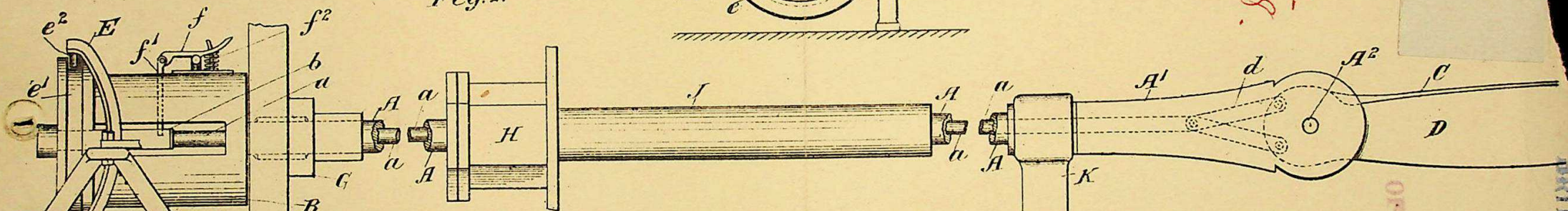

Fig. 6.

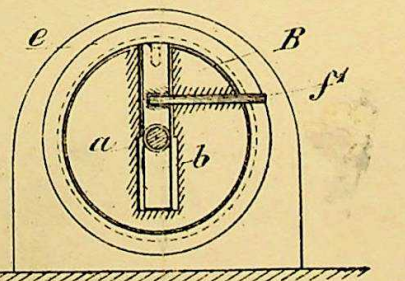

Fig. 7.

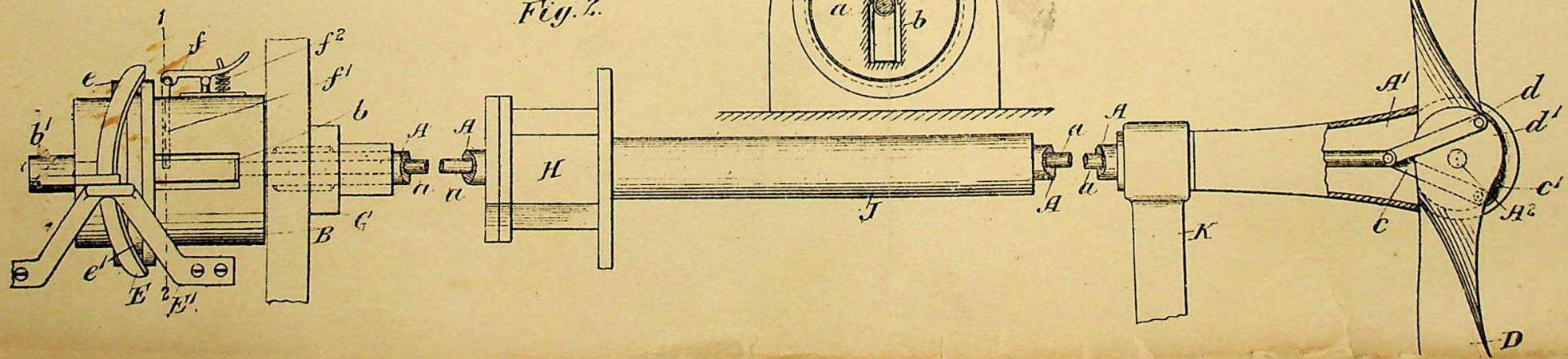

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Fig. 4.

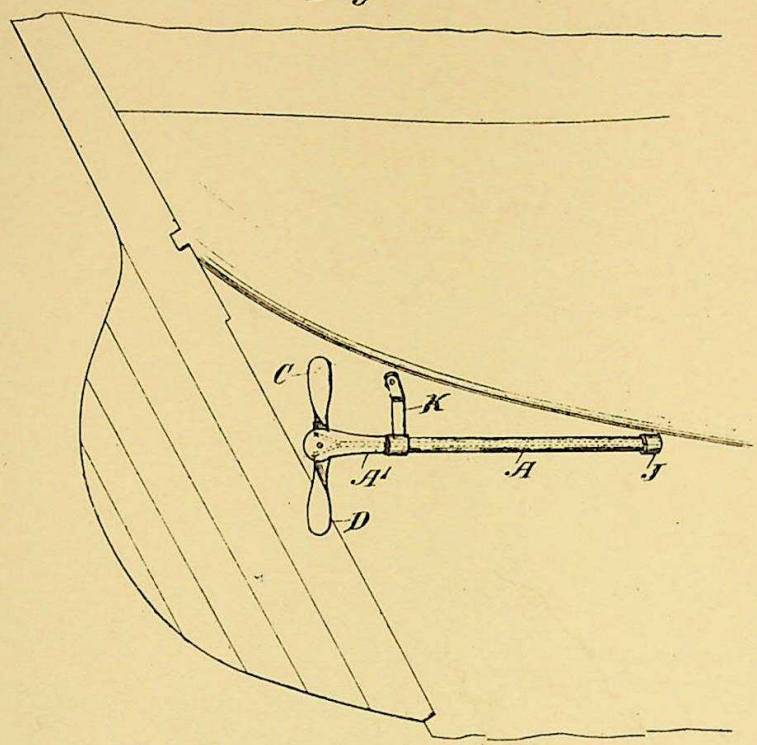
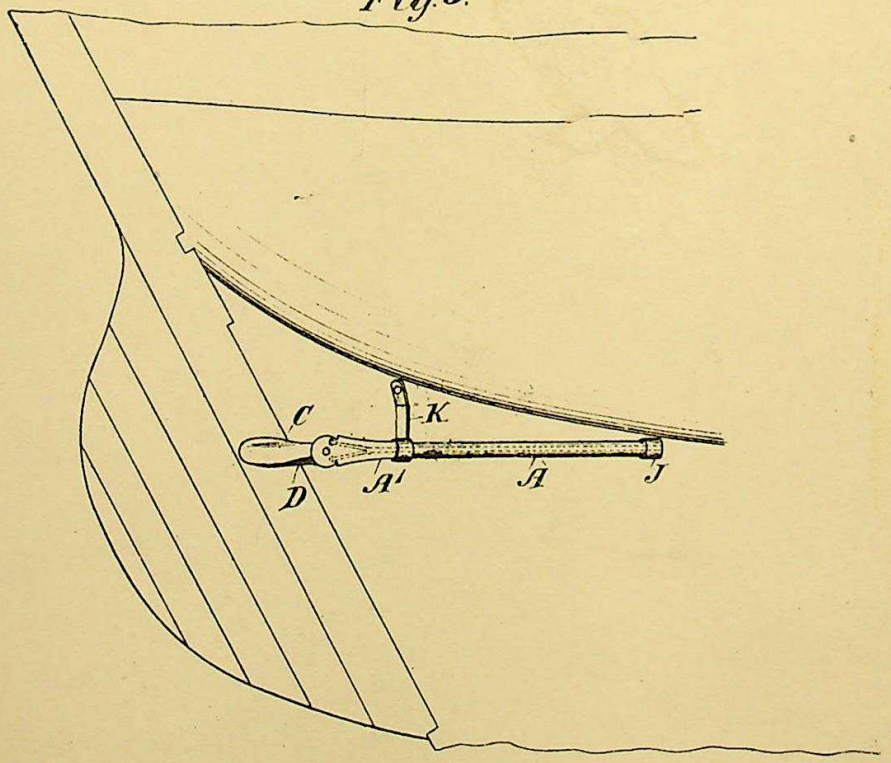


Fig. 5.



[This Drawing is a reproduction of the Original on a reduced scale.]

Malby & Sons, Photo-Litho.

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N° 4504 A.D. 1908

DUPLICATE

Date of Application, 28th Feb., 1908

Complete Specification Left, 27th May, 1908—Accepted, 1st Mar., 1909

PROVISIONAL SPECIFICATION.

Improvements in Folding Propellers.

I, ROBERT WYLIE, of High Street, Campbeltown, Scotland, Carpenter & Boatbuilder, do hereby declare the nature of this invention to be as follows:—

This invention relates to folding propellers particularly applicable to auxiliary yachts or fishing boats, which can be opened and closed when the boat is under sail so as to offer no resistance.

I provide within the boat a tube having a shaft therein, one end of which shaft is connected to two blades of the propeller and the other end to a piston block within a cylinder, that end of the shaft which is connected to the propeller being formed with a forked portion pivoted at its junction to the shaft; the free ends of the forked portion being pivoted to the rear of the propeller blades. The blades of the propeller—at the rear—are also pivoted to an enlargement of the rear end of the tube and the arrangement is such that by pushing the rod towards the stern, the forked link portions cause the blades of the propeller to open out on their pivot. To close the propeller, the shaft is pulled inwards.

The tube with shaft where it emerges from the boat may have a stuffing box and long supporting sleeve, and the end of the tube with shaft may have a bearing adjacent to the enlarged tube portion carrying the propeller.

The cylinder having the piston block carrying the back end of the actuating rod of the propeller may have a spring interposed between the piston block and the inside of the cylinder which may have a stuffing box where the tube with the shaft passes through.

The shaft within the tube may be actuated by a lever operating the piston block to which the shaft is connected and the tube with shaft, may drive the propeller by means of a block or forward connection in the most suitable manner.

Dated this 27th day of February, 1908.

JOHNSONS,
Chartered Patent Agents,
37, West Nile Street, Glasgow.

COMPLETE SPECIFICATION.

Improvements in Folding Propellers.

I, ROBERT WYLIE, of High Street, Campbeltown, Scotland, Carpenter and Boatbuilder, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to folding propellers and has for its object to provide

improved means for actuating same from the inside of the boat whilst it is under sail and is particularly applicable to auxiliary yachts or fishing boats.

Fig. 1 shows a plan view of the folding propeller and with the means for actuating the same from the inside of the craft, the propeller being shewn folded.

Fig. 2 shows a similar view to Fig. 1, but with the folding propeller opened out.

Fig. 3 shows the folding propeller applied to a craft—in a folded position,—

Fig. 4 shows a similar view to Fig. 3, but with the folding propeller opened out.

Fig. 5 shows an end view of the left hand side of Figs. 1 and 2.

Fig. 6 shows a section on line 1, 2 of Fig. 2.

My improved folding propeller is very easily actuated and it can after releasing a trigger device, be opened whilst it is rotating, by simply pulling a lever to the right or left, as the case may require.

Within the craft, I provide the tube A jutting out at the stern of the craft as shewn in Figs. 3 and 4; the rear or inside end of the shaft being connected to the cylinder B and the forward end A^1 being enlarged and carrying the propeller blades C and D.

Within the tube A is the rod *a*, the rear or inside end being connected to the slipper *b* of the cylinder B and the forward end, to the links *c* and *d* Fig. 2, which are connected to the propeller blades C and D; the link *c* to the blade C and the link *d* to the blade D, and the arrangement of the propeller blades is such that by forcing the rod *a* in a direction towards the stern of the craft, the links *c* and *d* transmit a motion of partial rotation to the propeller blades C and D until they assume the position shewn in Figs. 2 and 4. The blades C and D are pivoted at A^2 to the enlarged portion A^1 of the shaft A, and the bosses c^1, d^1 of the propeller blades lie against each other.

The connection to the driving power is made at b^1, and the cylinder B, tube A and rod *a* are all rotated together, along with the propeller blades.

The rod *a* for effecting the opening or folding of the propeller blades is moved inwardly or outwardly by means of the clutch fork E and clutch *c* which has connected to it the slipper *b* of the rod *a*; the said clutch fork being carried and pivoted to the bracket E^1, and remaining stationary and the clutch *c* is slidden along on the cylinder B and consequently the slipper *b* and rod *a* are also moved longitudinally. The clutch *c* is provided with the race c^1 for the pins c^2 of the fork E to run in—as shewn in Fig. 1.

To allow of the slipper and clutch *c* being moved when required and to keep them in a set position, I employ a trigger device consisting of the pivoted lever *f* having the pin or rod f^1 tensioned inwards by the spring f^2 of the lever *f*; this pin f^1 engaging within either one or other of the two apertures of the slipper, which arrangement is clearly shewn in the detail Fig. 6. The said trigger device is carried by the cylinder B and therefore rotates along with it.

In proximity with the cylinder B there is a gland such as G for the tube A and rearward of such gland there is another gland such as H having a long sleeve J to ensure of the tube B having a long bearing and a good support. This sleeve slightly protrudes at the stern or quarter of the craft as shewn in Figs. 3 and 4; a further support for the tube A and propeller being provided by means of the stay K which is secured to the craft and having the tube A inserted through the boss thereof and rotating therein.

In Figs. 3 and 4 the propellers are shewn turned half way round that is to say not in their true relative position with the plan views Figs. 1 and 2.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that I am aware that it has been proposed to employ folding propeller blades, actuated